WHAT IS CLAIMED IS:

1. A lever-type electrical connector assembly that reduces required connecting mating forces comprising:

a first connector including a first cam follower projection and a second cam follower projection;

a base housing for connecting to the first connector, the base housing including ~~a first cam groove, a second cam groove~~, and a first sliding guide rail;

a slide lever housing mounted on the base housing and including a first sliding projection engaged in the first sliding guide rail, the slide lever housing having a second sliding guide rail; and

a cover housing having a second sliding projection engaged in the second sliding guide rail, the cover housing pivotally mounted on the base housing.

2. The lever-type electrical connector assembly of claim 1, wherein the first sliding guide rail includes a lateral stop to prevent further travel of the first sliding projection.

3. The lever-type electrical connector assembly of claim 2, wherein the lateral stop of the first sliding guide rail includes a circular region formed to provide an area for the first sliding projection to rotate as the lever housing is rotated from an unmated position to a mated position.

4. The lever-type electrical connector assembly of claim 1, wherein at least one of the first cam groove and the second cam groove is non-linear to engage at least one of the first cam follower projection and the second cam follower projection as the lever housing is rotated from an unmated position to a mated position.

5. The lever-type electrical connector assembly of claim 4, wherein the at least one non-linear cam groove is formed in the shape of an arc thereby providing a substantially constant mating force as the lever housing is rotated from an unmated position to a mated position.

6. The lever-type electrical connector assembly of claim 1, wherein the assembly is sealed to prevent liquid and vapor penetration.

7. A lever-type electrical connector assembly that reduces required connecting mating forces comprising:

a first connector including a first cam follower projection and a second cam follower projection;

a base housing for connecting to the first connector, the base housing including ~~a first cam groove, a second cam groove~~, and a first sliding guide rail;

a slide lever housing mounted on the base housing and including a first sliding projection engaged in the first sliding guide rail, the slide lever housing having a second sliding guide rail; and

a cover housing having a second sliding projection engaged in the second sliding guide rail, the cover housing pivotally mounted on the base housing,

wherein the cover housing is rotated from an open position to a closed position thereby engaging the second sliding projection in the second sliding guide rail to permit the movement of the lever housing from an open to a closed position thereby engaging the first sliding projection in the first sliding guide rail and where the lever housing is rotated from an unmated position to a mated position thereby rotating the first cam groove and the second cam groove to engage the first cam follower projection and the second cam follower projection thereby drawing the first connector into the base housing to a connected position.

8. The lever-type electrical connector assembly of claim 7, wherein the first sliding guide rail includes a lateral stop to prevent further travel of the first sliding projection.

9. The lever-type electrical connector assembly of claim 8, wherein the lateral stop of the first sliding guide rail includes a circular region formed to provide an area for the first sliding projection to rotate as the lever housing is rotated from an unmated position to a mated position.

10. The lever-type electrical connector assembly of claim 7, wherein at least one of the first cam groove and the second cam groove is non-linear to engage at least one of the first cam follower projection and the second cam follower projection as the lever housing is rotated from an unmated position to a mated position.

11. The lever-type electrical connector assembly of claim 10, wherein the at least one non-linear cam groove is formed in the shape of an arc thereby providing a substantially constant mating force as the lever housing is rotated from an unmated position to a mated position.

12. The lever-type electrical connector assembly of claim 7, wherein the assembly is sealed to prevent liquid and vapor penetration.

13. A method of locking a connection member into secure electrical engagement with a housing member, said method comprising:

inserting the connection member into a housing member, the connection member comprising a first cam follower projection and a second cam follower projection, and the housing member comprising:

a base housing, the base housing comprising ~~a first cam groove, a second cam groove~~, and a first sliding guide rail,

a slide lever housing mounted on the base housing and including a first sliding projection engaged in the first sliding guide rail, the slide lever housing having a second sliding guide rail; and

a cover housing having a second sliding projection engaged in the second sliding guide rail, the cover housing pivotally mounted on the base housing,

rotating the cover housing from an open position to a closed position thereby engaging the second sliding projection in the second sliding guide rail;

sliding the lever housing from an open position to a closed position thereby engaging the first sliding projection in the first sliding guide rail;

rotating the lever housing from an unmated position to a mated position thereby rotating the first cam groove and the second cam groove to engage the first cam follower projection and the second cam follower projection thereby drawing the connection member into the base housing to a connected position.

14. The method of locking a connection member into secure electrical engagement with a housing member of claim 13 wherein the step of sliding the lever housing from an open position to a closed position is complete upon sliding the lever housing until the lever housing reaches a lateral stop.

15. The method of locking a connection member into secure electrical engagement with a housing member of claim 14, further comprising the step of rotating the lever housing and the first sliding projection from an unmated position to a mated position after the step of sliding the lever housing from an open position to a closed position is complete.

16. The method of locking a connection member into secure electrical engagement with a housing member of claim 13, wherein at least one of the first cam groove and the second cam groove is non-linear to engage at least one of the first cam follower projection and the second cam follower projection as the lever housing is rotated from an unmated position to a mated position.

17. The method of locking a connection member into secure electrical engagement with a housing member of claim 16, wherein the at least one non-linear cam groove is formed in the shape of an arc thereby providing a substantially constant mating force as the lever housing is rotated from an unmated position to a mated position.

18. The method of locking a connection member into secure electrical engagement with a housing member of claim 13, further comprising the step of sealing the connector and the housing to prevent liquid and vapor penetration.